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Sig. of Candidate. _____

Answer Sheet No. 89

Sig. of Invigilator. _____

RADIOGRAPHIC TECHNIQUES HSSC-II

SECTION – A (Marks 20)

Time allowed: 25 Minutes

NOTE: Section-A is compulsory and comprises pages 1-2. All parts of this section are to be answered on the question paper itself. It should be completed in the first 25 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

- (i) IV contrast should be avoided in:
- | | |
|--------------------------|----------------------------|
| A. Hyperthyroid patients | B. Hypothyroid patients |
| C. Hyponatraemic patient | D. Hypernatraemic patients |
- (ii) Maximum effective dose equivalent radiation occurs in which test among following options:
- | | |
|-----------------------------|--|
| A. X-ray chest Lateral view | B. X-ray lumbar spine AP and Lateral views |
| C. X-ray thoracic spine | D. Barium test |
- (iii) What is false about radiation effect on human?
- | | |
|--------------------------------|---|
| A. Not seen in the off springs | B. The coming generation can suffer from malformation of organs |
| C. Can cause cataract of eyes | D. Can cause redness of the skin exposed to radiation |
- (iv) **Metacarpal bones:**
- | | |
|--|--|
| A. Take part in formation of wrist joint | B. First one articulates with distal end of radius |
| C. Head is the lower end | D. Are flat bones |
- (v) **Scaphoid bone:**
- | | |
|------------------------|-----------------------------|
| A. Part of tarsal bone | B. Part of metacarpals bone |
| C. Is like boat | D. Is like ship |
- (vi) Carpal tunnel:
- | | |
|-------------------------------------|---------------------------------|
| A. Is on the posterior side of hand | B. is on anterior side of wrist |
| C. Is made by bones only | D. Is made by muscle of hand |
- (vii) Capitellum:
- | | |
|------------------------------|----------------------------|
| A. Is the name of skull bone | B. Is the name of tendon |
| C. is part of radius bone | D. Is part of humerus bone |
- (viii) Acromion:
- | | |
|---------------------------------------|-------------------------------------|
| A. Is posterior to coracoid process | B. Is posterior to coracoid process |
| C. Is near the medial end of clavicle | D. Is part of clavicle bone |
- (ix) Barium mixed with water in 250% concentration can be used safely in:
- | | |
|---|--|
| A. Barium swallow in children | B. In patients with recent biopsy of esophagus |
| C. In patients with recent biopsy of rectum | D. In patients with tracheoesophageal fistula |
- (x) Cardiac arrhythmia can occur in:
- | | |
|-----------------------------|--------------------------------|
| A. Following Barium enema | B. If Barium is given per oral |
| C. Following Barium swallow | D. Following Barium meal |
- (xi) Correct about Hyoscine-N-Butylbromide (Buscopan) use:
- | | |
|--|---|
| A. Used in Barium follow through | B. Used in Barium enema test |
| C. Not used in patients of Renal failure | D. Not used in patient of Liver failure |

- (xii) Incorrect about Glucagon injection:
- A. Causes smooth muscle relaxation
 - B. Is secreted by alpha cells of pancreas
 - C. Can cause allergic reactions
 - D. Can decrease blood sugar level
- (xiii) Small bowel enema:
- A. Is an alternate test for Barium follow through
 - B. Dilute barium is given per rectum
 - C. Methylcellulose is not used
 - D. Lactulose is used in the test
- (xiv) Subject contrast:
- A. Image contrast and subject contrast are synonymous terms
 - B. Subject contrast and subjective contrast are synonymous terms
 - C. Improves when only soft tissue is X-rayed
 - D. Decreases when high KV technique is used
- (xv) Intensifying screens:
- A. Using slow screen is better than fast to avoid motion blur
 - B. Is placed after the film
 - C. When fast screens are used radiation dose is increased
 - D. When changing from slow to fast screens mAs must be decreased
- (xvi) Sternal angle:
- A. Is at the level of 1/2 thoracic vertebra
 - B. Is at the level of 2/3 thoracic vertebrae
 - C. Is at the level of 3/4 thoracic vertebrae
 - D. Is at the level of 4/5 thoracic vertebrae
- (xvii) Iliac crest:
- A. Is the lower part of iliac bone
 - B. Is at the level of 4th sacral segment
 - C. Is at the level of 4th lumbar vertebra
 - D. is at the level of 2nd lumbar vertebra
- (xviii) Orbito meatal line:
- A. Passes through orbit and nose
 - B. Passes through outer canthus of eye to the tragus of ear
 - C. Passes through upper part of orbit to the lower part of ear
 - D. Passes through the lower part of orbit to the meatus of ear
- (xix) Town's view:
- A. Is to see the para nasal sinuses
 - B. Is to see posterior fossa of cranium
 - C. Is to see mandible
 - D. Is the name of lateral view of skull
- (xx) Submento vertical view:
- A. Is the AP view of skull
 - B. Is the Lateral view of skull
 - C. Is best to see foramina of skull
 - D. Is the best view to see inferior menti of mandible

For Examiner's use only:

Total Marks:

20

Marks Obtained:



RADIOGRAPHIC TECHNIQUES HSSC-II

90

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: Answer any twenty-five parts from Section 'B' and any three questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q. 2 Answer any TWENTY-FIVE parts. The answer to each part should not exceed 2 to 4 lines. (25x2=50)

- (i) Write whether anode is straight or tilted and why?
- (ii) What is the melting point of Tungsten?
- (iii) How an X-ray tube and fluoroscope are different?
- (iv) What lubricant is used in X-ray vacuum tube?
- (v) What is X-ray tube failure?
- (vi) On which axis of tube rating chart time scale and tube current are placed?
- (vii) What is mass number of an atom?
- (viii) What is binding force of an atom?
- (ix) How X-rays are produced?
- (x) How characteristic radiation is produced?
- (xi) What is over exposed film?
- (xii) How will correct underpenetrated film?
- (xiii) What will you do with exposure factors if Focus to film distance is increased?
- (xiv) What do the prefix giga and mega mean?
- (xv) What is Angstrom?
- (xvi) Write about Tungsten?
- (xvii) What is anode heat storage chart?
- (xviii) Draw atomic structure?
- (xix) How Bremstrahlung radiation is produced?
- (xx) Define intensity of beam?
- (xxi) What do you understand about target of X-ray tubes? Write the materials used?
- (xxii) What is grid cut off?
- (xxiii) What is spinal cord?
- (xxiv) Write anatomy of human heart?
- (xxv) What is the difference between cervical and thoracic vertebrae?
- (xxvi) Write about sesamoid bones?
- (xxvii) How per operative cholangiogram is done?
- (xxviii) Give location of radioulnar joint?
- (xxix) Olecranon is part of which bone?
- (xxx) Write down parts of aorta?
- (xxxi) What is photomultiplier tube?

SECTION – C (Marks 30)

Note: Attempt any THREE questions. All questions carry equal marks.

(3 x 10 = 30)

- Q. 3** What are the views for X-ray cranium? Write how X-ray pituitary fossa is taken?
- Q. 4** How to expose cervical vertebrae? Give detail.
- Q. 5** Write down the procedure to take X-ray of ribs?
- Q. 6** Write down the procedure to take X-ray of Scapula?
- Q. 7** What is computed radiography? Write about the imaging plate used in computed radiography?